

one eighth inch = one foot

0 4 8 16

one quarter inch = one foot

0 4 8

three eighths inch = one foot

0 4

one half inch = one foot

0 4

three quarters inch = one foot

0 4

one inch = one foot

0 6" 1

one and one half inches = one foot

0 6" 1

three inches = one foot

0 6" 1

A

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A. ALL WORK SHALL COMPLY WITH THE TEST EDITION OF THE NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) CODES, NATIONAL ELECTRICAL MANUFACTURER'S ASSOCIATION (NEMA) STANDARDS, TIA/EIA STANDARDS, UNDERWRITER LABORATORIES, INC. (UL) LISTINGS, APPLICABLE LOCAL AND REGIONAL CODES, AND VA REQUIREMENTS AND STANDARDS.

B. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS ASSOCIATED WITH THIS PROJECT ON BEHALF OF THE VA. REFERENCE SPECIFICATION SECTION 260511 FOR ADDITIONAL REQUIREMENTS.

C. CONTRACTOR SHALL RECOGNIZE THAT PROJECT SCOPE INCLUDES ALL PROJECT CONTRACT DOCUMENTS (DRAWINGS AND SPECIFICATIONS), THE DRAWINGS AND SPECIFICATIONS SHALL BE TAKEN TOGETHER AS ONE. CONTRACTOR SHALL PROVIDE WORK SPECIFIED AND NOT INDICATED OR WORK INDICATED AND NOT SPECIFIED AS THOUGH MENTIONED IN BOTH.

D. CONTRACTORS ARE TO COORDINATE ALL WORK WITH THE VA COTR. CLEAN ALL DEBRIS FROM THE CONSTRUCTION SITE TO THE SATISFACTION OF THE VA COTR. REFERENCE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

E. GROUND: CONTINUITY OF GROUND THROUGHOUT THE SYSTEM SHALL BE PROVIDED. SYSTEM GROUND TO COMPLY WITH NEC REQUIREMENTS. RACEWAY SHALL NOT BE SUPPORTED ON SOLE EQUIPMENT. GROUNDING MEANS: ALL RACEWAY (CONDUIT, CABLETRAY, SURFACE RACEWAY, ETC) SHALL HAVE CONTINUOUS GROUND THROUGHOUT RACEWAY SYSTEM. SIZE PER NEC. CONTRACTOR SHALL ENSURE AND CONDUCT ALL PERFORMANCE CRITERIA AND TESTING OF GROUNDING SYSTEM PER NFPA, REFERENCE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

F. CONTRACTOR SHALL REPLACE ANY ACoustICAL CEILING TILES, PORTIONS OF THE SUSPENSION SYSTEM OR EXPOSED GRID SYSTEM DAMAGED BY HIS WORK.

G. ALL CONDUIT PENETRATING FIRE WALLS, FIRE BARRIERS, SMOKE BARRIERS, OR FIRE PARTITIONS SHALL COMPLY WITH APPLICABLE BUILDING CODES AND SHALL BE SEALED TIGHT WITH AN APPROVED FIRE STOP SEALANT RESTORING THE WALL/BARRIER/PARTITION TO ITS ORIGINAL RESISTANCE. SEE SECTION 075400, UNLESS OTHERWISE NOTED ON DRAWINGS, ALL WALL, CEILING, AND FLOOR SLAB PARTITIONS SHALL BE CONSIDERED AS FIRE RATED PARTITIONED ACCORDINGLY.

H. ALL ELECTRICAL CONDUIT SHALL BE CONCEALED IN WALLS OR CEILINGS IN FINISHED AREAS.

I. BRANCH CIRCUITS SHALL BE MINIMUM #12 CONDUCTOR AND 3/4" CONDUIT. USE CONDUIT/CONDUCTORS FOR OCVP, VOLTAGE DROP, ETC AS REQUIRED BY THE NEC AND VA SPECIFICATIONS AND REQUIREMENTS.

J. REFERENCE MECHANICAL DRAWINGS AND SPECIFICATIONS FOR WORK PHASING AND CONSTRUCTION CONTROLS PLAN.

K. FOR THE ARCHITECTURAL PLANS, NOT ALL ELECTRICAL ITEMS REQUIRING DEMOLITION MAY BE SHOWN. VISIT SITE BEFORE BIDDING AND BECOME FAMILIAR WITH WORK REQUIRED.

one eighth inch = one foot  
0 4 8 16

one quarter inch = one foot  
0 4 8

three eighths inch = one foot  
0 4

one half inch = one foot  
0 4

three quarters inch = one foot  
0 4

one inch = one foot  
0 6"

one and one half inches = one foot  
0 6"

two inches = one foot  
0 6"

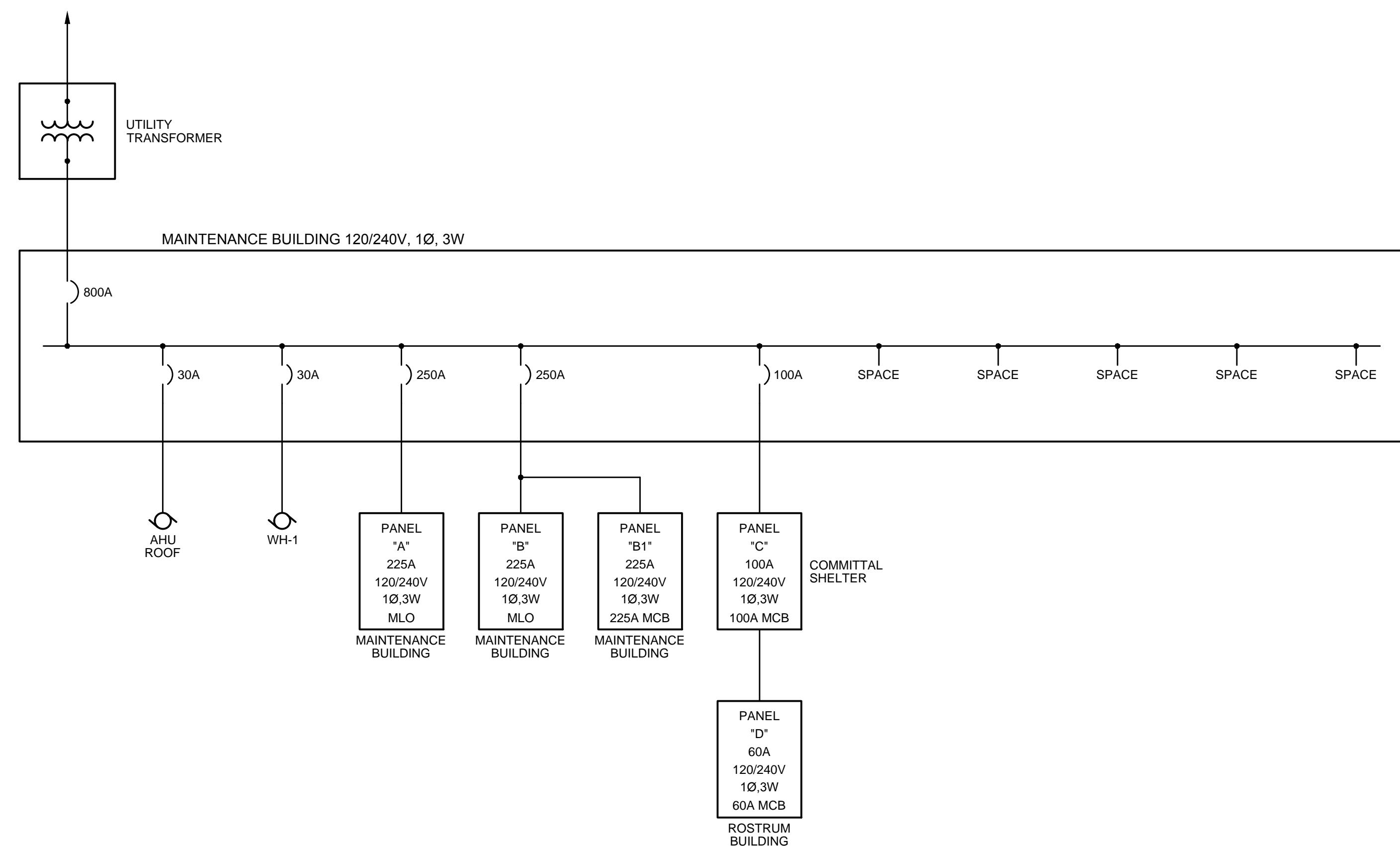
three inches = one foot  
0 6"

A

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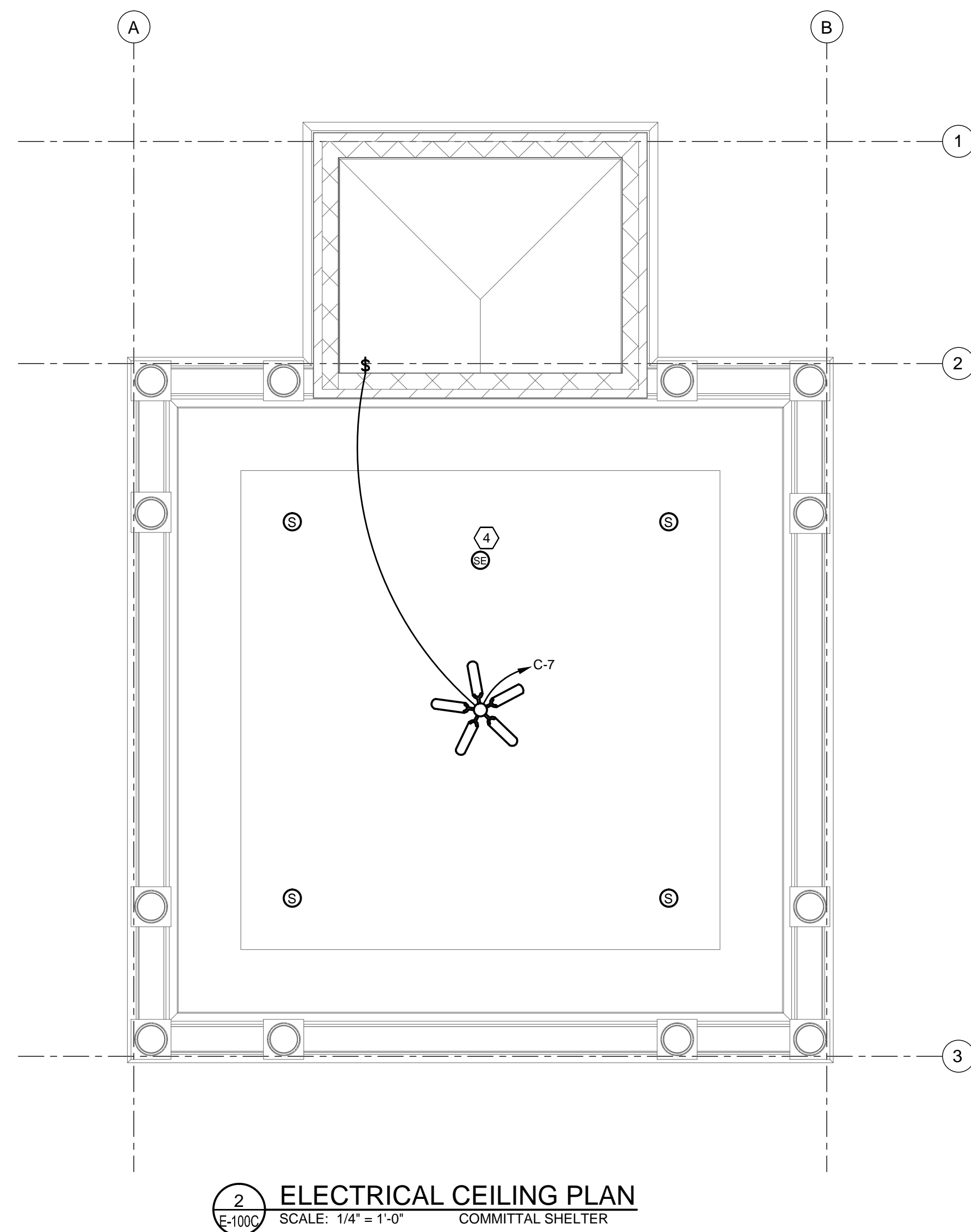




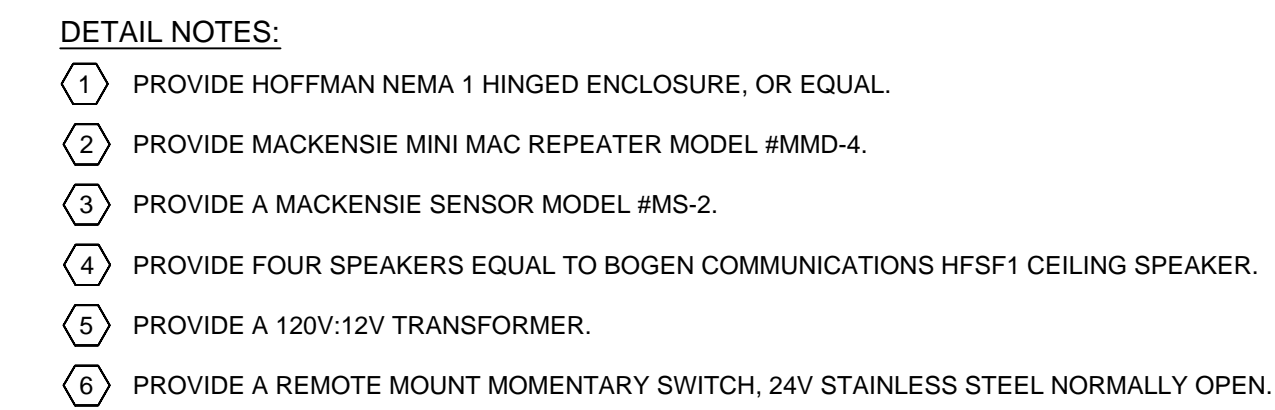


3 MAINTENANCE BUILDING ONE-LINE DIAGRAM (NEW)  
E-051 SCALE: N.T.S.

 Department of  
Veterans Affairs



- | PANEL C                               |             | VOLTS:     | 120/ 240  | PHASE:                                | 1                          | WIRE:     | 3     | MAIN CAP:                  | 100      | AMPERES |  |
|---------------------------------------|-------------|------------|-----------|---------------------------------------|----------------------------|-----------|-------|----------------------------|----------|---------|--|
|                                       |             | A/C RATING | 22,000    | FED FROM MAINTENANCE BUILDING PANEL M |                            |           |       |                            |          |         |  |
| (COMMUTIAL SHELTER)                   |             | MOUNTING:  | SURFACE   | FEEDER SIZE                           | 3Ø/30 + #4 GND CU (NOTE 1) |           |       | MAIN CONNECTION            | 100A/MCB |         |  |
| CCT NO                                | ITEM/FED    | LOAD SIZE  | WVRE SIZE | CIRCUIT BREAKER                       | NEUTRAL                    | WVRE SIZE | LOADS | ITEM/FED                   | CCT NO   |         |  |
| 1                                     | RECEPTACLE  | 200        | 12        | 20                                    | 1                          | L1        | 200   | PANEL D (ROSTRUM BUILDING) | 1        |         |  |
| 3                                     | RECEPTACLE  | 360        | 12        | 20                                    | 1                          | L2        | 200   | SPACE                      | 4        |         |  |
| 5                                     | TAPS PLAYER | 200        | 12        | 20                                    | 1                          | L1        | -     | SPACE                      | 6        |         |  |
| 7                                     | FAN         | 200        | 12        | 20                                    | 1                          | L2        | -     | SPACE                      | 8        |         |  |
| 9                                     | LTS STORAGE | 100        | 12        | 20                                    | 1                          | L1        | -     | SPACE                      | 10       |         |  |
| 11                                    | SPARE       | -          | -         | 20                                    | 1                          | L2        | -     | SPACE                      | 12       |         |  |
| 13                                    | SPACE       | -          | -         | -                                     | -                          | L1        | -     | SPACE                      | 14       |         |  |
| 15                                    | SPACE       | -          | -         | -                                     | -                          | L2        | -     | SPACE                      | 16       |         |  |
| 17                                    | SPACE       | -          | -         | -                                     | -                          | L1        | -     | SPACE                      | 18       |         |  |
| NOTES                                 |             |            |           |                                       |                            |           |       | APPROXIMATE CONNECTED LOAD |          |         |  |
| 1. FEEDERS SIZED FOR ~3% VOLTAGE DROP |             |            |           |                                       |                            |           |       | L1: 1,380 WATTS            |          |         |  |
|                                       |             |            |           |                                       |                            |           |       | L2: 560 WATTS              |          |         |  |



**3 TAPS PLAYER CONNECTION DETAIL**  
 E-100C SCALE: N.T.S. COMMITTAL SHELTER



- PLAN NOTES:
- 1 PROVIDE CONNECTION AT THIS LOCATION FOR THE GRAVESITE LOCATOR.
  - 2 LOCATION OF A HARDWIRED COUNTERTOP LAVATORY. CONNECT 120V TO THE TRANSFORMER PROVIDED BY MECHANICAL CONTRACTOR.
  - 3 REFERENCE DETAILS 'A', 'T', OR 'G' FOR LIGHTNING PROTECTION AT THE POINTS DESIGNATED 'A', 'T' OR 'G' ABOVE. SEE DETAILS ON SHEET E-501.
  - 4 BOND ALL EXTERIOR ROOF PENETRATION EQUIPMENT. ALL BONDING POINTS MAY NOT BE SHOWN HERE. SEE DETAILS ON SHEET E-501.
  - 5 WATER SOFTENER IS A PLUG LOAD. PLUG INTO NEARBY RECEPTACLE.

PANEL A (LOAD BUILDING)		VOLTS: 120/240		PHASE: 1		WIRE: 3		MAIN CAP: 600		AMPERES	
		A/C RATING		22,000							
		MOUNTING		SURFACE		FEEDER SIZE		6#3/0 + 2#3 GND		MAIN CONNECTION	
CCT NO	ITEMTED	LOAD WATTS	WVRE	CIRCUIT BREAKER	WVRE	NEUTRAL	CIRCUIT BREAKER	WVRE	LOAD WATTS	ITEMTED	CCT NO
		SIZE	AMPS	POLES	FRAME		FRAME	POLES	AMPS	SIZE	
1	REC RM 106/109/EXT	1,260	12	20	1	L1	-	2	60	6	15,459
3	REC RM 104/105	1,260	12	20	1	L2	-	8	12,024	-	4
5	REC RM 107/108	900	12	20	1	L1	1	20	12	149	ERV-2
7	REC RM 103/EXT	1,080	12	20	1	L2	1	20	12	149	ERV-3
9	REC RM 102/104	540	12	20	1	L1	1	20	12	810	LTG 2ND FLOOR
11	DATA CABINET	500	12	20	1	L2	1	20	12	980	LTG 1ST FLOOR
13	REC RM 201/203	1,260	12	20	1	L1	1	20	12	432	LTG BASEMENT
15	REC RM 204	1,080	12	20	1	L2	1	20	12	126	LTG EXTERIOR
17	REC RM 208/209	540	12	20	1	L1	2	40	8	4,560	WH-3
19	REC RM 202	900	12	20	1	L2	-	-	8	4,560	-
21	REC BASSEMENT	900	12	20	1	L1	1	15	12	60	OMP-1
23	GRAVE LOCATOR	500	12	20	1	L2	1	20	12	373	SP-1
25	REFRIDGERATOR	500	12	20	1	L1	-	1	20	-	SPARE
27	AHU-2	6,600	6	60	2	L2	2	15	12	600	AHU-2
29	AHU-3	6,600	6	-	-	L1	-	-	12	600	-
31	AHU-3	6,000	6	60	2	L2	2	15	12	600	AHU-3
33	SP-1	6,500	6	-	-	L1	-	12	12	600	34
35	HP-2	2,436	12	30	2	L2	1	20	12	500	LTG CTRL CABINATE
37	-	2,436	12	-	-	L1	-	-	-	-	SPACE
39	HP-3	1,884	12	25	2	L2	-	-	-	-	SPACE
41	-	1,884	12	-	-	L1	-	-	-	-	SPACE
NOTES										APPROXIMATE CONNECTED LOAD	
										L1 - 45,460 WATTS	
										L2 - 43,332 WATTS	

STARTER AND DISCONNECT SCHEDULE (LUDGE BUILDING)									
UNIT NO	MOTOR		STARTER			DISCONNECT		REMARKS/NOTES	
	HP	VOLT PHASE	NEMA SIZE	ENCLOSURE TYPE	KEY FEATURES	SWITCH SIZE	FUSE SIZE		
AH1U-2	55MCA	120V1	BYD/2V3	-	-	INTEGRAL	60A	PER NEC	INTEGRAL STARTER
AH1U-3	50MCA	120V1	BYD/2V3	-	-	INTEGRAL	60A	PER NEC	INTEGRAL STARTER
EW1-1	60V1	120V1	-	-	-	-	15A	PER NEC	-
ERV2	0.4	120V1	BYD/2V3	-	-	INTEGRAL	15A	PER NEC	INTEGRAL STARTER
ERV3	0.4	120V1	BYD/2V3	-	-	INTEGRAL	15A	PER NEC	INTEGRAL STARTER
HF-2	20.3MCA	240V1	BYD/2V3	-	-	INTEGRAL	30A	PER NEC	INTEGRAL STARTER
HF-3	15.7MCA	240V1	-	-	-	INTEGRAL	25A	PER NEC	INTEGRAL STARTER
SP-1	0.5	120V1	-	-	-	-	15A	PER NEC	-
WH-3	38FLA	240V1	-	-	-	-	40A	PER NEC	-
NOTES									
<b>KEY:</b> B = HAND-OFF-AUTO SELECTOR SWITCH FT = CONTROL XFMR 120V FUSED FWR= FULL VOLTAGE NON REVERSING VFD= VARIABLE FREQUENCY DRIV G= GREEN "OFF" PILOT LIGHT SPC= SINGLE POINT CONNECTION FVR= FULL VOLTAGE REVERSING MRS= MANUAL MOTOR STARTER WITH OVERLOAD PROTECTION & LOCK-OFF GUARD R = RED "ON" PILOT LIGHT MRS= MOTOR RATED SWITCH RVS= REDUCED VOLTAGE START OVR= OVERLOAD PROTECTION & LOCK-OFF GUARD									
PROVIDE ALL MOTORS OVER 5 HP WITH SOLID STATE OVERLOADS COORDINATE EXACT REQUIREMENTS WITH MECHANICAL SHOP DRAWINGS PRIOR TO ORDERING EQUIPMENT OR RUNNING FEEDERS PROVIDE ALL STARTERS WITH 2 N O S 2 N C. AUXILIARY INTERLOCKING RELAYS									

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**CATOR | RUMA**  
 & ASSOCIATES, CO.  
 896 Tabor Street  
 Lakewood, CO 80401  
 303.232.6200 (P)  
 303.233.3701 (F)

420 W. Lincolnway  
 Cheyenne, WY 82001  
 307.274.3830 (P)  
 303.233.3701 (F)

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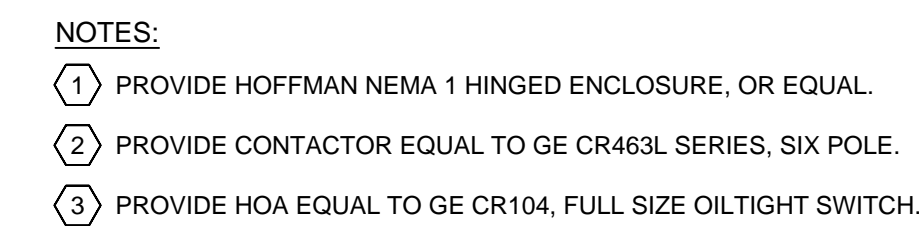
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FOURFRONT  
DESIGN INC

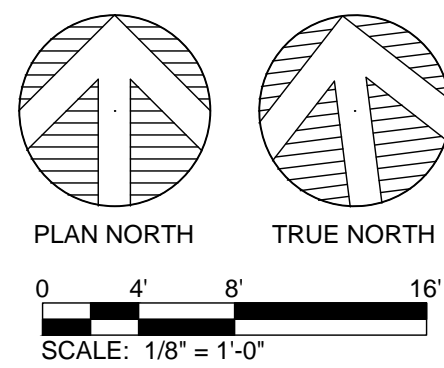
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E-100L  
Dwg. 82 of 90

NCA DESIGN  
AND CONSTRUCTION  
SERVICE



1.	LUMINAIRE TYPES DEFINED WITH A MANUFACTURER FOLLOWED BY "OR EQUAL" DO NOT REQUIRE PRIOR APPROVAL FOR SUBSTITUTED PRODUCTS TO BID. HOWEVER, THIS DOES NOT ALLEVATE THE SUBSTITUTED PRODUCT MEETING OR EXCEEDING THE QUALITIES AND STANDARDS SET FORTH OF THE LISTED MANUFACTURERS PRODUCT.
2.	LUMINAIRE TYPES DEFINED WITH A MANUFACTURER FOLLOWED BY "OR APPROVED SUBSTITUTE" DOES REQUIRE PRIOR APPROVAL FOR SUBSTITUTED PRODUCTS TO BID. HOWEVER, THIS DOES NOT ALLEVATE THE SUBSTITUTED PRODUCT FROM MEETING OR EXCEEDING THE QUALITIES AND STANDARDS SET FORTH OF THE LISTED MANUFACTURERS PRODUCT.
3.	REFER TO THE LIGHTING PLAN FOR NUMBER OF FACES AND DIRECTION OF CHEVRONS FOR EACH FIXTURE.



BID DOCUMENTS

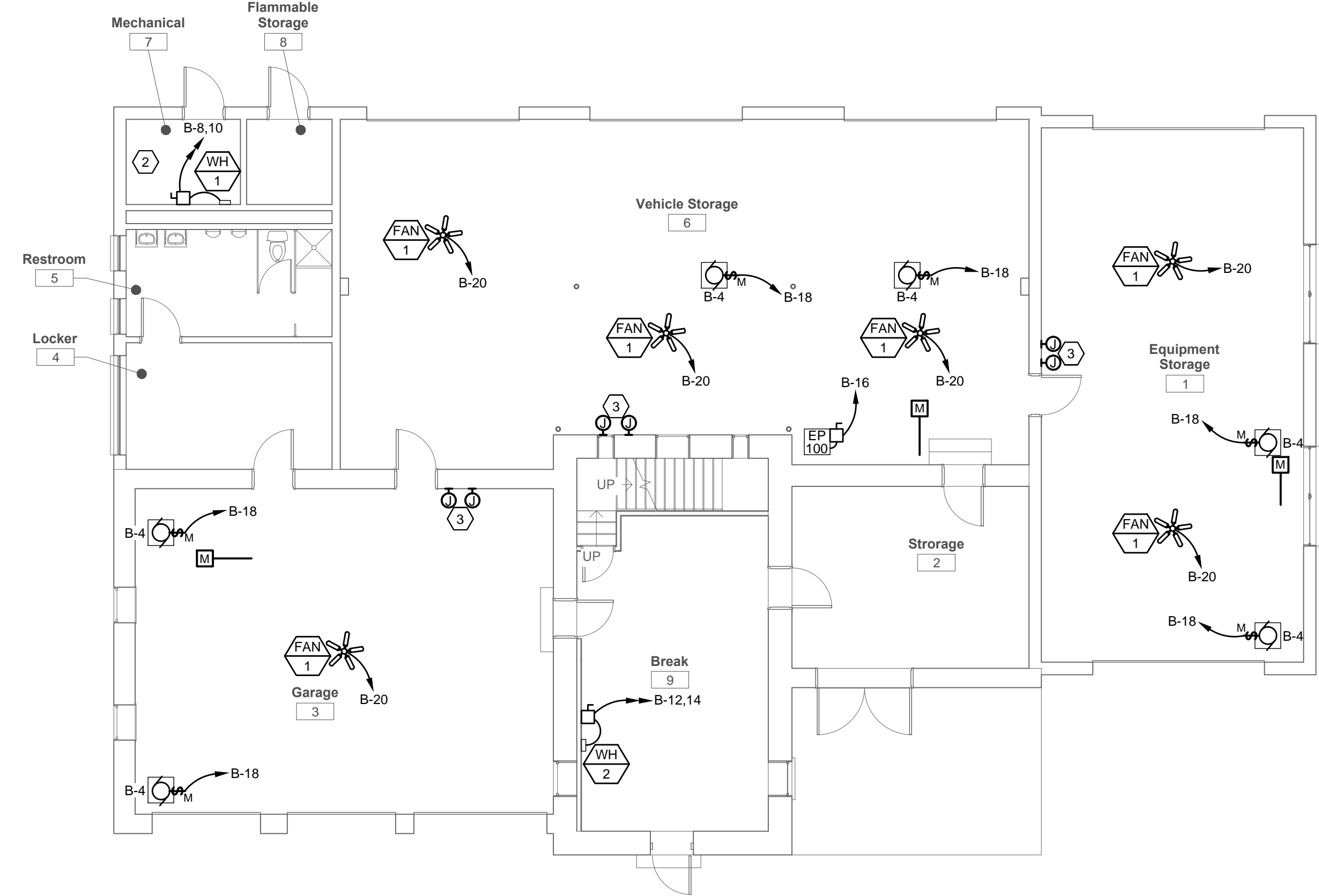
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three inches = one foot  
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one inch = one foot  
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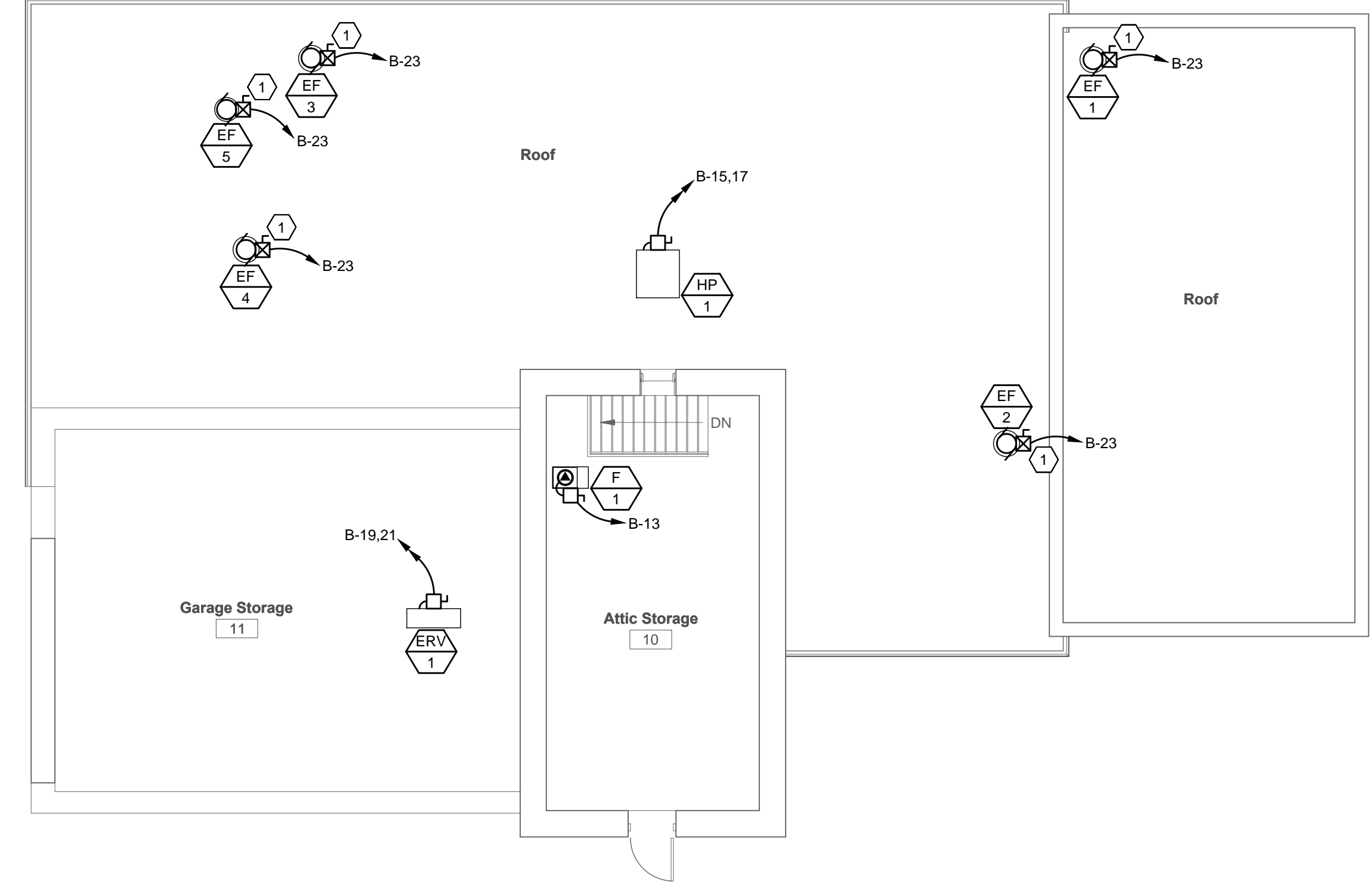
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VA FORM 08-6231



1 FIRST FLOOR POWER PLAN  
SCALE: 1/8" = 1'-0"  
MAINTENANCE BUILDING



2 SECOND FLOOR POWER PLAN  
SCALE: 1/8" = 1'-0"  
MAINTENANCE BUILDING

GENERAL NOTES:

- A. SEE STARTER DISCONNECT SCHEDULE FOR MECHANICAL EQUIPMENT, FOR SIZES AND TYPES.
- B. REFERENCE THIS SHEET FOR PANEL SCHEDULES.
- C. PROVIDE A 20A/1P MCCB IN PANEL "B1" FOR ALL NEW THERMOSTATS. PROVIDE CONDUIT AND CONDUCTOR AS NECESSARY.
- D. PROVIDE A 20A/1P MCCB IN PANEL "B1" FOR ALL MOTORIZED DAMPERS. PROVIDE CONDUIT AND CONDUCTOR AS NECESSARY.
- E. PROVIDE A 20A/1P MCCB IN PANEL "B1" FOR ALL NO AND CO2 SENSORS. SEE NOTE 3.
- F. PROVIDE A 20A/1P MCCB IN PANEL "B1" FOR ALL AUTOMATIC FLUSH TOILETS. SEE MECHANICAL FOR LOCATIONS.

PLAN NOTES:

- 1. STARTER/DISCONNECT TO BE PROVIDED BY DIV. 23 AND INSTALLED BY THIS CONTRACTOR.
- 2. UPGRADE SERVICE FROM THIS BUILDING FROM 400A TO 800A, CONTACT NASHVILLE ELECTRIC SERVICE (615) 736-6900. REPLACE EXISTING DISTRIBUTION PANEL WITH NEW SQUARE D I-LINE PANEL OR EQUAL. NEW PANEL TO HAVE BREAKER SPACES AS SHOWN. NEW SERVICE FEEDERS TO BE UP SIZED TO 38600 KCMIL IN (2)3" CONDUITS OR EACH OF (3) 2 1/2" CONDUITS.
- 3. LOCATION OF NO AND CO2 SENSORS.

STARTER AND DISCONNECT SCHEDULE (MAINTENANCE BUILDING)									
UNIT NO	MOTOR		STARTER			DISCONNECT			REMARKS/NOTES
	HP	PHASE	TYPE	NEMA SIZE	ENCLOSURE TYPE	KEY FEATURES	SWITCH SIZE	FUSE SIZE	
B-4(6)	0.03	120V	-	-	-	-	15AMRS	PER NEC	STARTER/DISCONNECT BY DIV 23
EF-1	0.06	120V	BY DIV 23	-	3R	-	15AMRS	PER NEC	STARTER/DISCONNECT BY DIV 23
EF-2	0.04	120V	BY DIV 23	-	3R	-	15AMRS	PER NEC	STARTER/DISCONNECT BY DIV 23
EF-3	0.04	120V	BY DIV 23	-	3R	-	15AMRS	PER NEC	STARTER/DISCONNECT BY DIV 23
EF-4	0.06	120V	BY DIV 23	-	3R	-	15AMRS	PER NEC	STARTER/DISCONNECT BY DIV 23
EF-5	0.02	120V	BY DIV 23	-	3R	-	15AMRS	PER NEC	STARTER/DISCONNECT BY DIV 23
EP-100	0.33	120V	-	-	-	-	20A	PER NEC	INTEGRAL STARTER
ERV-1	1.5	240V	BY DIV 23	-	-	INTEGRAL	15A	PER NEC	SPC. INTEGRAL STARTER
F-1	0.5	120V	BY DIV 23	-	-	INTEGRAL	15A	PER NEC	INTEGRAL STARTER
HP-1	15.7MCA	240V	BY DIV 23	-	-	INTEGRAL	25A	PER NEC	INTEGRAL STARTER
WH-1	9KW	240V	-	-	-	-	40A	PER NEC	INTEGRAL STARTER
WH-2	7KW	240V	-	-	-	-	30A	PER NEC	INTEGRAL STARTER

NOTES:

KEY:  
B= HAND-OFF-AUTO SELECTOR SWITCH  
FT= CONTROL FAN/120V FUSED  
FVNR= FULL VOLTAGE NON REVERSING  
VFD= VARIABLE FREQUENCY DRIVE

G= GREEN "OFF" PILOT LIGHT  
SPC= SINGLE POINT CONNECTION  
FVR= FULL VOLTAGE REVERSING  
MMS= MANUAL MOTOR STARTER WITH OVERLOAD PROTECTION & LOCK-OFF GUARD

R= RED "ON" PILOT LIGHT  
MRS= MOTOR RATED SWITCH  
RVS= REDUCED VOLTAGE START

PROVIDE ALL MOTORS OVER 5 HP WITH SOLID STATE OVERLOADS  
COORDINATE EXACT REQUIREMENTS WITH MECHANICAL SHOP DRAWINGS PRIOR TO ORDERING EQUIPMENT OR RUNNING FEEDERS  
PROVIDE ALL STARTERS WITH 2 N.O. & 2 N.C. AUXILIARY INTERLOCKING RELAYS

PANEL M (EXISTING - MAINTENANCE BUILDING)									
MOUNTING FLOOR		VOLTS		120/240		PHASE		1	
SPECTRA SERIES POER PANEL BOARD, GE # 368 3447-T		WIRE		3		MAIN CAPACITY		400 AMPERES	
RATING		65 KA/C		MAIN CONNECTION: 400A MCB					
CCT NO	ITEM FED	CIRCUIT BREAKER			WIRE		LOAD DISTRIBUTION		REMARKS
		AMP'S	POLES	FRAME	SIZE	PHASE A KW	PHASE B KW		
1	AHU - ROOF	30	2	65KA					
2	WH - 1	30	2	65KA					
3	PNL A	250	2	66KA					
4	SPACE	-	-	-					
5	PNL B	250	2	66KA					
6	SPACE	-	-	-					

NOTES

1. DISCONNECT ALL LOADS SHOWN AND RECONNECTED TO NEW PANEL, SEE NEW SCHEDULED PANEL M

- NOTES:
- DISCONNECT ALL LOADS SHOWN AND RECONNECTED TO NEW PANEL, SEE NEW SCHEDULED PANEL M.

PANEL M (MAINTENANCE BUILDING)										
MOUNTING FLOOR		VOLTS	120/240		PHASE	1	WIRE	3	MAIN CAPACITY	800 AMPERES
FEEDER SIZE		9#300 + 3#1/0 GND CU		RATING		65 KAIC		MAIN CONNECTION: 800AMCB		
CIRCUIT BREAKER					LOAD DISTRIBUTION					REMARKS
CCT NO	ITEM FED	AMPS	POLES	FRAME	WIRE SIZE	PHASE A KW	PHASE B KW			
1	AHU - ROOF	30	2		EXISTING TO BE REUSED	-	-	NOTE 2		
2	WH -1	30	2		EXISTING TO BE REUSED	-	-	NOTE 2		
3	PNL A	250	2		EXISTING TO BE REUSED	0	0	NOTE 1,2		
4	PNL B	400	2		EXISTING TO BE REUSED	12624	12617	NOTE 1,2		
5	PNL C (COMMUTAL SHELTER)	100	2		3#30 + #4 GND (NOTE 3)	1280	560			
6	SPACE	-	-		-	-	-			
7	SPACE	-	-		-	-	-			
8	SPACE	-	-		-	-	-			
9	SPACE	-	-		-	-	-			
10	SPACE	-	-		-	-	-			
NOTES:										

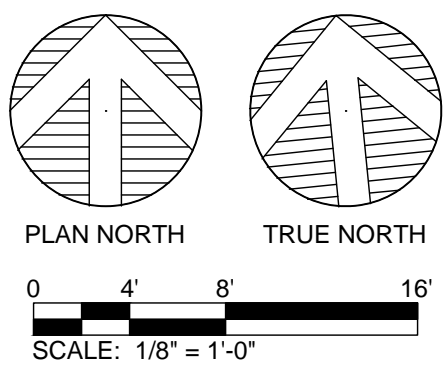
- NOTES:
- LOAD SHOWN HERE IS THE ADDED LOAD TO THE EXISTING PANEL. NOT THE ACTUAL LOAD.
  - DISCONNECT FROM EXISTING PANEL AND RECONNECT TO THIS NEW PANEL AT THIS LOCATION.
  - FEEDERS SIZED FOR <3% VOLTAGE DROP.

PANEL A		VOLTS		120/ 240		PHASE:		1		WIRE: 3		MAIN CAP		225A		AMPERES	
		A/C RATING		22,000		GE A SERIES PANELBOARD #4F375											
(MAINTENANCE BUILDING)		MOUNTING		SURFACE		FEEDER SIZE		PED FROM MAINTENANCE BUILDING PANEL M				MAIN CONNECTION		MLO			
CCT NO	ITEM FED	LOAD WATTS	WIRE SIZE	CIRCUIT BREAKER AMPS	FRAME	NEUTRAL	CIRCUIT BREAKER AMPS	FRAME	POLES	WIRE SIZE	LOAD WATTS	ITEM FED	LOAD WATTS	WIRE SIZE	ITEM FED	LOAD WATTS	
1	AIR COMPRESSOR		30	2		L1	1	15				ROOF EXH FAN				2	
3	-		-	-		L2	1	20				FRT EQ STR LTS				4	
5	AGAS FIRED HTR		20	1		L1	1	20				SPARE				6	
7	AIR COMPRESSOR		15	1		L2	1	20				SPARE				8	
9	KIT APPL REC		20	1		L1	1	20				ELEC DR OPNR				10	
11	KIT APPL REC		20	1		L2	1	20				ELEC DR OPNR				12	
13	KIT APPL REC		20	1		L1	1	20				ELEC DR OPNR				14	
15	KIT APPL REC		20	1		L2	1	20				VENDING MACH				16	
17	BREAK ROM REC		20	1		L1	1	20				VENDING MACH				18	
19	TLT-LCKR-MR LTS		20	1		L2	1	20				RR EQ STR GFCI REC				20	
21	MR WALL HTR		20	1		L1	1	20				RR EQ STR GFCI REC				22	
23	FR EQ STR WL HTR		20	1		L2	1	20				MECH RM REC				24	
25	TLT-SHWR WL LTS		20	1		L1	1	20				FO PUMP-NV/LWT				26	
27	KIT BB HTR		20	1		L2	1	20				SPARE				28	
29	BRK RMKIT LTS		20	1		L1	1	20				TLT-GFCI REC				30	
NOTES:														APPROXIMATE CONNECTED LOAD			
1														L1- 0 WATTS			
2														L2- 0 WATTS			

PANEL B				VOLTS	120/ 240	PHASE:	1	WIRE:	3	MAIN CAP.	225	AMPERES
(MAINTENANCE BUILDING)				AIR RATING	22,000	GE A SERIES PANELBOARD 4X40284						
				MOUNTING	SURFACE	FEEDER SIZE:	FED FROM MAINTENANCE BUILDING PANEL M				MAIN CONNECTION	MLO
CCT NO	ITEM FED	LOAD WATTS	WIRE SIZE	CIRCUIT BREAKER	NEUTRAL	CIRCUIT BREAKER	POLES	AMPS	WIRE SIZE	LOAD WATTS	ITEM FED	CCT NO
1	WELDER OUTLET (NOTE 1)			100	2	L1		2	20		SPARE	2
3	-			-	-	L2		-	-		-	4
5	GAS FIRED UH (NOTE 1)			15	1	L1		1	15		GAS FIRED UH	6
7	SPARE			20	1	L2		2	40	8	4,560	8
9	AIR COMPRESSOR			40	2	L1		-	8	4,560	-	10
11	-			-	-	L2		2	30	10	3,480	12
13	F-1	924	12	15	1	L1		-	10	3,480	-	14
15	HP-1	1,884	12	25	2	L1		1	20	12	576	16
17	-	1,884	12	-	-	L1		1	20	12	616	18
19	ERV-1	560	12	20	2	L2		1	20	12	600	20
21	MP GFCI ON ROOF	560	12	-	-	L1		-	-	-	SPACE	22
23	EF-1,2,3,4,5	157	12	20	1	L2		-	-	-	SPACE	24
NOTES											APPROXIMATE CONNECTED LOAD	
1.											L1- 11,624 WATTS	
2.											L2- 11,817 WATTS	

PANEL B1 (MAINTENANCE BUILDING)				VOLTS		120/ 240		PHASE		1		WIRE		3		MAIN CAP.		225		AMPERES																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
MOUNTING		SURFACE		FEEDER SIZE		RED FROM MAINTENANCE BUILDING PANEL M										MAIN CONNECTION:		225A MCB																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
CCT NO	ITEM FED	LOAD WATTS	WIRE	CIRCUIT BREAKER	NEUTRAL	CIRCUIT BREAKER	WIRE	LOAD	ITEM FED	CCT NO	ITEM FED	LOAD WATTS	WIRE	CIRCUIT BREAKER	NEUTRAL	CIRCUIT BREAKER	WIRE	LOAD	ITEM FED	CCT NO	ITEM FED	LOAD WATTS	WIRE	CIRCUIT BREAKER	NEUTRAL	CIRCUIT BREAKER	WIRE	LOAD	ITEM FED	CCT NO	ITEM FED	LOAD WATTS	WIRE	CIRCUIT BREAKER	NEUTRAL	CIRCUIT BREAKER	WIRE	LOAD	ITEM FED	CCT NO	ITEM FED	LOAD WATTS	WIRE	CIRCUIT BREAKER	NEUTRAL	CIRCUIT BREAKER	WIRE	LOAD	ITEM FED	CCT NO	ITEM FED	LOAD WATTS	WIRE	CIRCUIT BREAKER	NEUTRAL	CIRCUIT BREAKER	WIRE	LOAD	ITEM FED	CCT NO	ITEM FED	LOAD WATTS	WIRE	CIRCUIT BREAKER	NEUTRAL	CIRCUIT BREAKER	WIRE	LOAD	ITEM FED	CCT NO	ITEM FED	LOAD WATTS	WIRE	CIRCUIT BREAKER	NEUTRAL	CIRCUIT BREAKER	WIRE	LOAD	ITEM FED	CCT NO	ITEM FED	LOAD WATTS	WIRE	CIRCUIT BREAKER	NEUTRAL	CIRCUIT BREAKER	WIRE	LOAD	ITEM FED	CCT NO	ITEM FED	LOAD WATTS	WIRE	CIRCUIT BREAKER	NEUTRAL	CIRCUIT BREAKER	WIRE	LOAD	ITEM FED	CCT NO	ITEM FED	LOAD WATTS	WIRE	CIRCUIT BREAKER	NEUTRAL	CIRCUIT BREAKER	WIRE	LOAD	ITEM FED	CCT NO	ITEM FED	LOAD WATTS	WIRE	CIRCUIT BREAKER	NEUTRAL	CIRCUIT BREAKER	WIRE	LOAD	ITEM FED	CCT NO	ITEM FED	LOAD WATTS	WIRE	CIRCUIT BREAKER	NEUTRAL	CIRCUIT BREAKER	WIRE	LOAD	ITEM FED	CCT NO	ITEM FED	LOAD WATTS	WIRE	CIRCUIT BREAKER	NEUTRAL	CIRCUIT BREAKER	WIRE	LOAD	ITEM FED	CCT NO	ITEM FED	LOAD WATTS	WIRE	CIRCUIT BREAKER	NEUTRAL	CIRCUIT BREAKER	WIRE	LOAD	ITEM FED	CCT NO	ITEM FED	LOAD WATTS	WIRE	CIRCUIT BREAKER	NEUTRAL	CIRCUIT BREAKER	WIRE	LOAD	ITEM FED	CCT NO	ITEM FED	LOAD WATTS	WIRE	CIRCUIT BREAKER	NEUTRAL	CIRCUIT BREAKER	WIRE	LOAD	ITEM FED	CCT NO	ITEM FED	LOAD WATTS	WIRE	CIRCUIT BREAKER	NEUTRAL	CIRCUIT BREAKER	WIRE	LOAD	ITEM FED	CCT NO	ITEM FED	LOAD WATTS	WIRE	CIRCUIT BREAKER	NEUTRAL	CIRCUIT BREAKER	WIRE	LOAD	ITEM FED	CCT NO	ITEM FED	LOAD WATTS	WIRE	CIRCUIT BREAKER	NEUTRAL	CIRCUIT BREAKER	WIRE	LOAD	ITEM FED	CCT NO	ITEM FED	LOAD WATTS	WIRE	CIRCUIT BREAKER	NEUTRAL	CIRCUIT BREAKER	WIRE	LOAD	ITEM FED	CCT NO	ITEM FED	LOAD WATTS	WIRE	CIRCUIT BREAKER	NEUTRAL	CIRCUIT BREAKER	WIRE	LOAD	ITEM FED	CCT NO	ITEM FED	LOAD WATTS	WIRE	CIRCUIT BREAKER	NEUTRAL	CIRCUIT BREAKER	WIRE	LOAD	ITEM FED	CCT NO	ITEM FED	LOAD WATTS	WIRE	CIRCUIT BREAKER	NEUTRAL	CIRCUIT BREAKER	WIRE	LOAD	ITEM FED	CCT NO	ITEM FED	LOAD WATTS	WIRE	CIRCUIT BREAKER	NEUTRAL	CIRCUIT BREAKER	WIRE	LOAD	ITEM FED	CCT NO	ITEM FED	LOAD WATTS	WIRE	CIRCUIT BREAKER	NEUTRAL	CIRCUIT BREAKER	WIRE	LOAD	ITEM FED	CCT NO	ITEM FED	LOAD WATTS	WIRE	CIRCUIT BREAKER	NEUTRAL	CIRCUIT BREAKER	WIRE	LOAD	ITEM FED	CCT NO	ITEM FED	LOAD WATTS	WIRE	CIRCUIT BREAKER	NEUTRAL	CIRCUIT BREAKER	WIRE	LOAD	ITEM FED	CCT NO	ITEM FED	LOAD WATTS	WIRE	CIRCUIT BREAKER	NEUTRAL	CIRCUIT BREAKER	WIRE	LOAD	ITEM FED	CCT NO	ITEM FED	LOAD WATTS	WIRE	CIRCUIT BREAKER	NEUTRAL	CIRCUIT BREAKER	WIRE	LOAD	ITEM FED	CCT NO	ITEM FED	LOAD WATTS	WIRE	CIRCUIT BREAKER	NEUTRAL	CIRCUIT BREAKER	WIRE	LOAD	ITEM FED	CCT NO	ITEM FED	LOAD WATTS	WIRE	CIRCUIT BREAKER	NEUTRAL	CIRCUIT BREAKER	WIRE	LOAD	ITEM FED	CCT NO	ITEM FED	LOAD WATTS	WIRE	CIRCUIT BREAKER	NEUTRAL	CIRCUIT BREAKER	WIRE	LOAD	ITEM FED	CCT NO	ITEM FED	LOAD WATTS	WIRE	CIRCUIT BREAKER	NEUTRAL	CIRCUIT BREAKER	WIRE	LOAD	ITEM FED	CCT NO	ITEM FED	LOAD WATTS	WIRE	CIRCUIT BREAKER	NEUTRAL	CIRCUIT BREAKER	WIRE	LOAD	ITEM FED	CCT NO	ITEM FED	LOAD WATTS	WIRE	CIRCUIT BREAKER	NEUTRAL	CIRCUIT BREAKER	WIRE	LOAD	ITEM FED	CCT NO	ITEM FED	LOAD WATTS	WIRE	CIRCUIT BREAKER	NEUTRAL	CIRCUIT BREAKER	WIRE	LOAD	ITEM FED	CCT NO	ITEM FED	LOAD WATTS	WIRE	CIRCUIT BREAKER	NEUTRAL	CIRCUIT BREAKER	WIRE	LOAD	ITEM FED	CCT NO	ITEM FED	LOAD WATTS	WIRE	CIRCUIT BREAKER	NEUTRAL	CIRCUIT BREAKER	WIRE	LOAD	ITEM FED	CCT NO	ITEM FED	LOAD WATTS	WIRE	CIRCUIT BREAKER	NEUTRAL	CIRCUIT BREAKER	WIRE	LOAD	ITEM FED	CCT NO	ITEM FED	LOAD WATTS	WIRE	CIRCUIT BREAKER	NEUTRAL	CIRCUIT BREAKER	WIRE	LOAD	ITEM FED	CCT NO	ITEM FED	LOAD WATTS	WIRE	CIRCUIT BREAKER	NEUTRAL	CIRCUIT BREAKER	WIRE	LOAD	ITEM FED	CCT NO	ITEM FED	LOAD WATTS	WIRE	CIRCUIT BREAKER	NEUTRAL	CIRCUIT BREAKER	WIRE	LOAD	ITEM FED	CCT NO	ITEM FED	LOAD WATTS	WIRE	CIRCUIT BREAKER	NEUTRAL	CIRCUIT BREAKER	WIRE	LOAD	ITEM FED	CCT NO	ITEM FED	LOAD WATTS	WIRE	CIRCUIT BREAKER	NEUTRAL	CIRCUIT BREAKER	WIRE	LOAD	ITEM FED	CCT NO	ITEM FED	LOAD WATTS	WIRE	CIRCUIT BREAKER	NEUTRAL	CIRCUIT BREAKER	WIRE	LOAD	ITEM FED	CCT NO	ITEM FED	LOAD WATTS	WIRE	CIRCUIT BREAKER	NEUTRAL	CIRCUIT BREAKER	WIRE	LOAD	ITEM FED	CCT NO	ITEM FED	LOAD WATTS	WIRE	CIRCUIT BREAKER	NEUTRAL	CIRCUIT BREAKER	WIRE	LOAD	ITEM FED	CCT NO	ITEM FED	LOAD WATTS	WIRE	CIRCUIT BREAKER	NEUTRAL	CIRCUIT BREAKER	WIRE	LOAD	ITEM FED	CCT NO	ITEM FED	LOAD WATTS	WIRE	CIRCUIT BREAKER	NEUTRAL	CIRCUIT BREAKER	WIRE	LOAD	ITEM FED	CCT NO	ITEM FED	LOAD WATTS	WIRE	CIRCUIT BREAKER	NEUTRAL	CIRCUIT BREAKER	WIRE	LOAD	ITEM FED	CCT NO	ITEM FED	LOAD WATTS	WIRE	CIRCUIT BREAKER	NEUTRAL	CIRCUIT BREAKER	WIRE	LOAD	ITEM FED	CCT NO	ITEM FED	LOAD WATTS	WIRE	CIRCUIT BREAKER	NEUTRAL	CIRCUIT BREAKER	WIRE	LOAD	ITEM FED	CCT NO	ITEM FED	LOAD WATTS	WIRE	CIRCUIT BREAKER	NEUTRAL	CIRCUIT BREAKER	WIRE	LOAD	ITEM FED	CCT NO	ITEM FED	LOAD WATTS	WIRE	CIRCUIT BREAKER	NEUTRAL	CIRCUIT BREAKER	WIRE	LOAD	ITEM FED	CCT NO	ITEM FED	LOAD WATTS	WIRE	CIRCUIT BREAKER	NEUTRAL	CIRCUIT BREAKER	WIRE	LOAD	ITEM FED	CCT NO	ITEM FED	LOAD WATTS	WIRE	CIRCUIT BREAKER	NEUTRAL	CIRCUIT BREAKER	WIRE	LOAD	ITEM FED	CCT NO	ITEM FED	LOAD WATTS	WIRE	CIRCUIT BREAKER	NEUTRAL	CIRCUIT BREAKER	WIRE	LOAD	ITEM FED	CCT NO	ITEM FED	LOAD WATTS	WIRE	CIRCUIT BREAKER	NEUTRAL	CIRCUIT BREAKER	WIRE	LOAD	ITEM FED	CCT NO	ITEM FED	LOAD WATTS	WIRE	CIRCUIT BREAKER	NEUTRAL	CIRCUIT BREAKER	WIRE	LOAD	ITEM FED	CCT NO	ITEM FED	LOAD WATTS	WIRE	CIRCUIT BREAKER	NEUTRAL	CIRCUIT BREAKER	WIRE	LOAD	ITEM FED	CCT NO	ITEM FED	LOAD WATTS	WIRE	CIRCUIT BREAKER	NEUTRAL	CIRCUIT BREAKER	WIRE	LOAD	ITEM FED	CCT NO	ITEM FED	LOAD WATTS	WIRE	CIRCUIT BREAKER	NEUTRAL	CIRCUIT BREAKER	WIRE	LOAD	ITEM FED	CCT NO	ITEM FED	LOAD WATTS	WIRE	CIRCUIT BREAKER	NEUTRAL	CIRCUIT BREAKER	WIRE	LOAD	ITEM FED	CCT NO	ITEM FED	LOAD WATTS	WIRE	CIRCUIT BREAKER	NEUTRAL	CIRCUIT BREAKER	WIRE	LOAD	ITEM FED	CCT NO	ITEM FED	LOAD WATTS	WIRE	CIRCUIT BREAKER	NEUTRAL	CIRCUIT BREAKER	WIRE	LOAD	ITEM FED	CCT NO	ITEM FED	LOAD WATTS	WIRE	CIRCUIT BREAKER	NEUTRAL	CIRCUIT BREAKER	WIRE	LOAD	ITEM FED	CCT NO	ITEM FED	LOAD WATTS	WIRE	CIRCUIT BREAKER	NEUTRAL	CIRCUIT BREAKER	WIRE	LOAD	ITEM FED	CCT NO	ITEM FED	LOAD WATTS	WIRE	CIRCUIT BREAKER	NEUTRAL	CIRCUIT BREAKER	WIRE

- NOTES:
- APPROXIMATE CONNECTED LOAD  
L1- 1,000 WATTS  
L2- 1,000 WATTS



BID DOCUMENTS

Revisions

Date

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10.1699.013

Drawing Title

Maintenance Building Power Plans

Approved Project Director

Project Title

NASHVILLE NATIONAL CEMETERY ADMIN DEMOLITION AND FACILITY UPGRADES

Location

MADISON, TENNESSEE

Date

07/20/2015

Checked

AR

Drawn

JB

Project Number

865CM3029

Building Number

N/A

Drawing Number

E-100M

Dwg. 84 of 90

NCA DESIGN AND CONSTRUCTION SERVICE

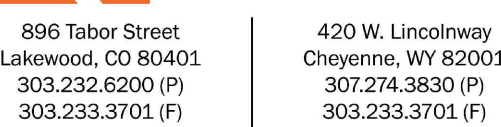
Department of Veterans Affairs



1  
E-100F

FIRST FLOOR  
SCALE: 1/4" = 1'-0"

ROSTRUM BUILDING

VA FORM 08-6231

FOURFRONT  
DESIGN INC.

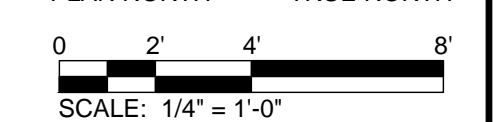
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E-100F

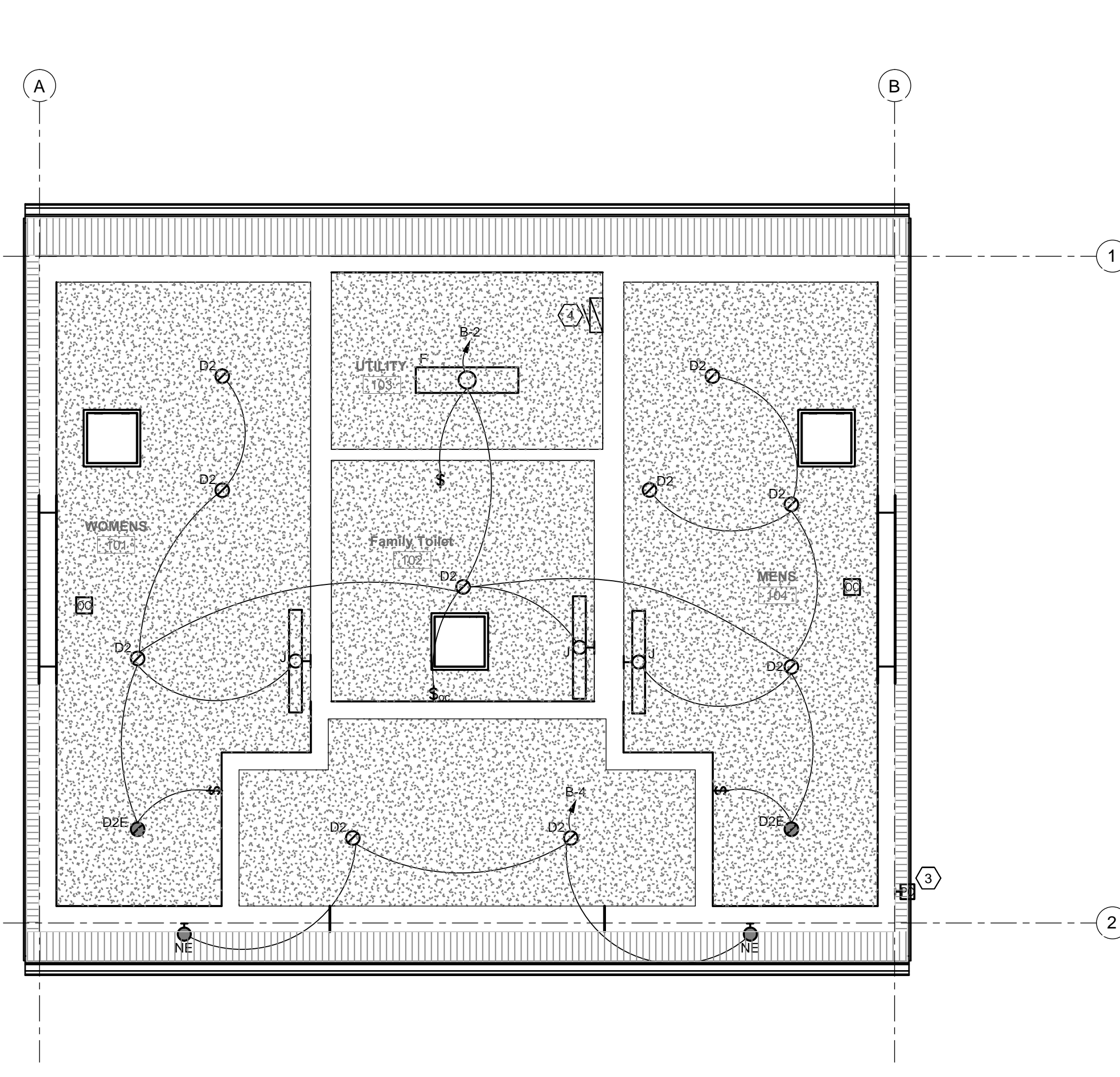


Department of  
Veterans Affairs

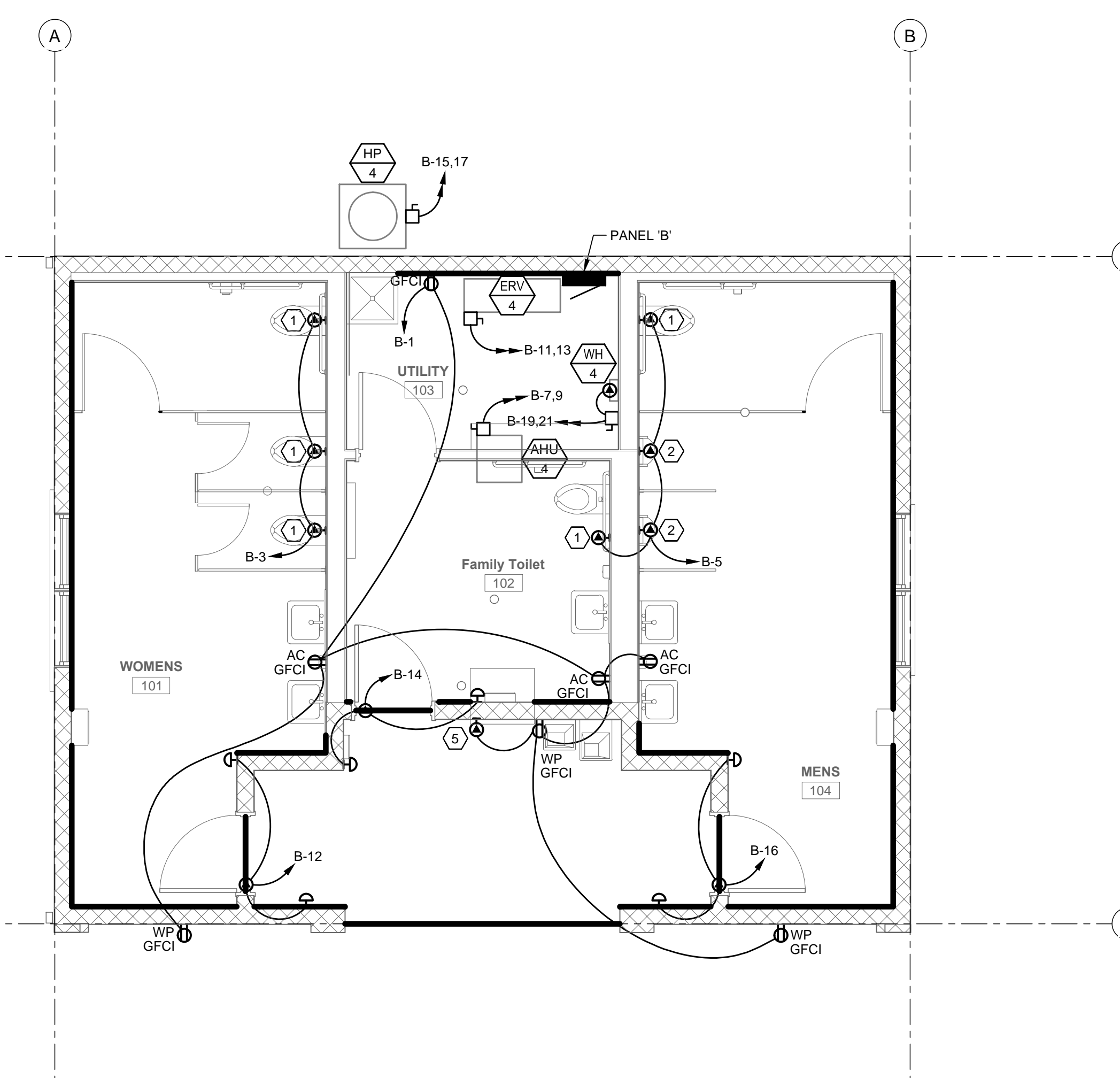


three inches = one foot  
one and one half inches = one foot  
one inch = one foot  
three quarters inch = one foot  
one half inch = one foot  
three eighths inch = one foot  
one quarter inch = one foot  
one eighth inch = one foot

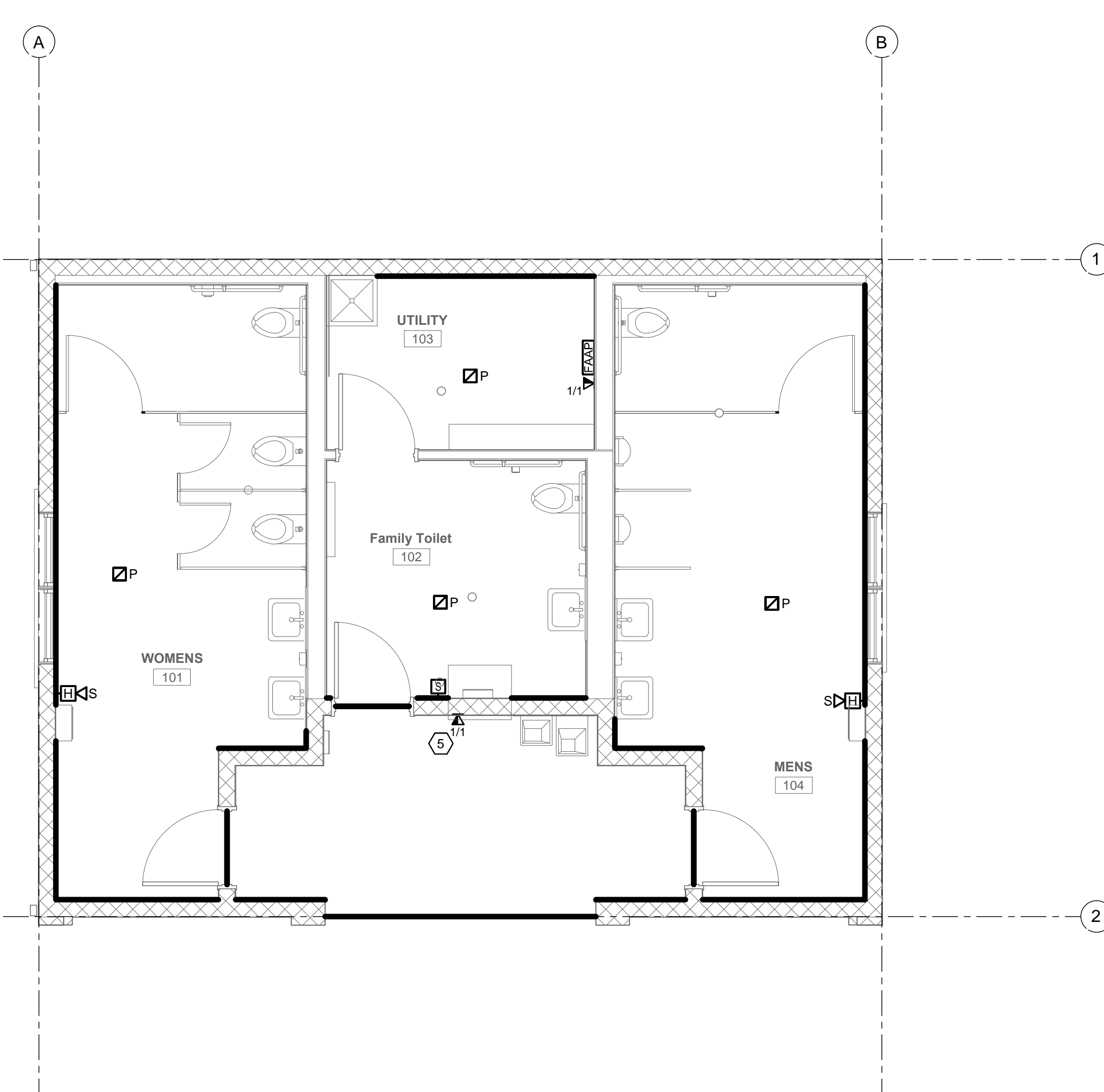
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1 LIGHTING PLAN  
E-1007 SCALE: 1/4" = 1'-0" TOILETS

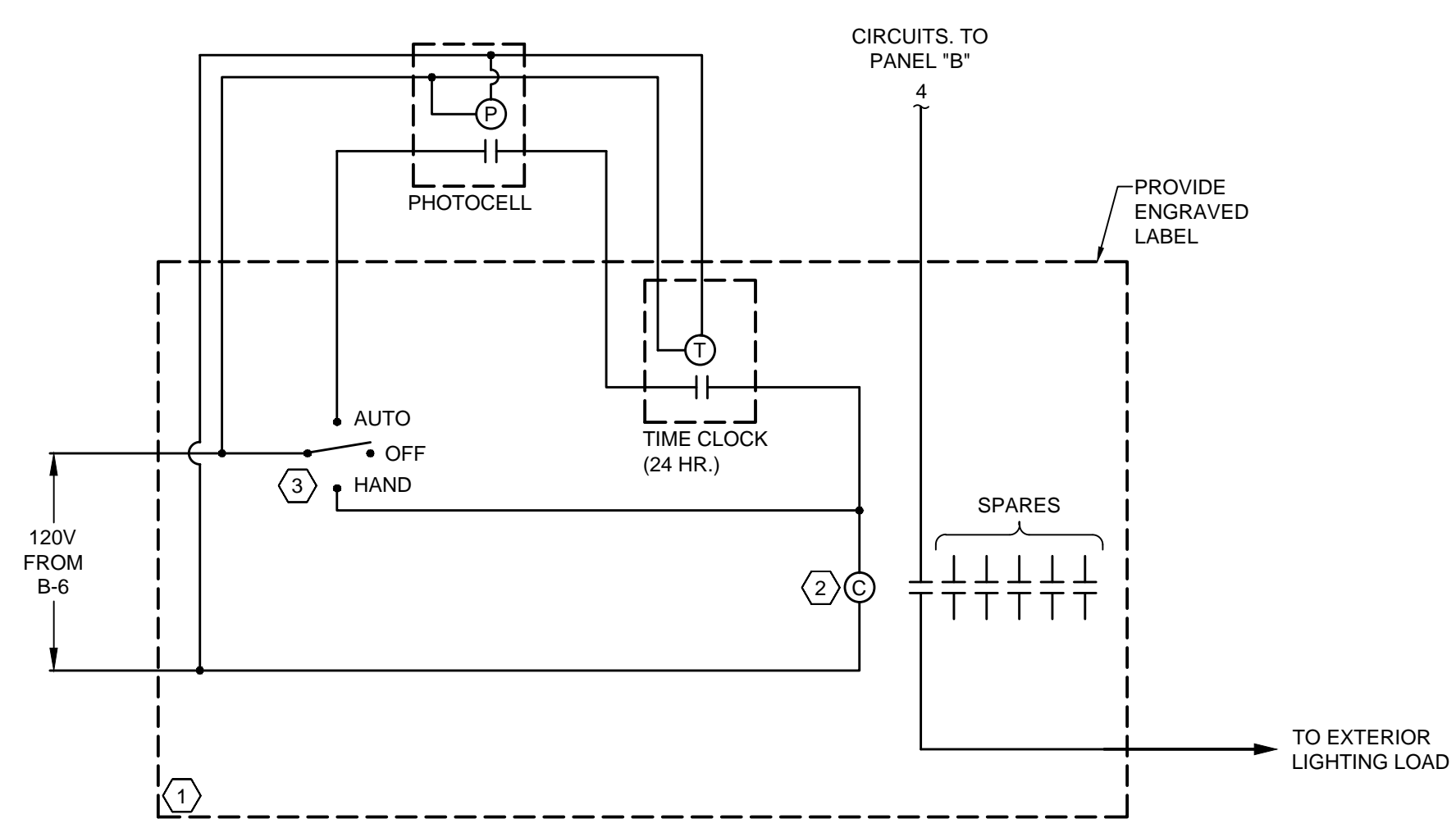


2 POWER PLAN  
E-1007 SCALE: 1/4" = 1'-0" TOILETS



2 SYSTEMS PLAN  
E-1007 SCALE: 1/4" = 1'-0" TOILETS

- PLAN NOTES:
- 1 LOCATION OF WATER CLOSET WITH HARDWIRED SENSOR. PROVIDE POWER TO THE 120V SIDE OF THE TRANSFORMER.
  - 2 LOCATION OF URINAL WITH HARDWIRED SENSOR. PROVIDE POWER TO THE 120V SIDE OF THE TRANSFORMER.
  - 3 MOUNT PHOTOCELL FACING SOUTHEAST ON BUILDING AT THIS LOCATION.
  - 4 EXTERIOR LIGHTING CONTROL CABINET, SEE 4/E-1007 FOR MORE DETAIL.
  - 5 PROVIDE POWER AND DATA AT THIS LOCATION AND CONNECTION TO THE GRAVE LOCATOR EQUIPMENT.



- DIAGRAM NOTES:
- 1 PROVIDE HOFFMAN NEMA 1 HINGED ENCLOSURE, OR EQUAL.
  - 2 PROVIDE CONTACTOR EQUAL TO GE CR463L SERIES, SIX POLE.
  - 3 PROVIDE HOA EQUAL TO GE CR104, FULL SIZE OILTIGHT SWITCH.

4 EXTERIOR LIGHTING CONTROL DIAGRAM  
E-1007 SCALE: N.T.S. TOILETS

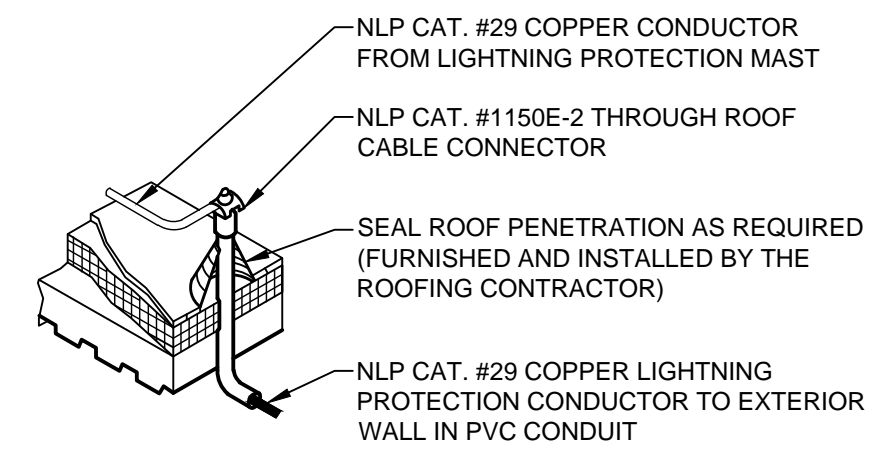
LIGHTING FIXTURE SCHEDULE										DESCRIPTION	REMARKS
FIXT TYPE	LTR	MANUFACTURER'S DESIGNATION	CATALOG NUMBER	MOUNTING	TYPE	NO	VOLTS	WATTS	CATALOG NUMBER		
D2/D2E		GOTHAM OR EQUAL	EVO-35/18-6AR-WD-LD-MVOLT-TRW-ELR	RECESSED CEILING	LED	1	120	28	INTEGRAL	6" OPEN REFLECTOR LED DOWNLIGHT, CCT: 3500K, CRI: 80+, LUMENS: 1800, CLEAR APERTURE/TRIM COLOR: WIDE DISTRIBUTION, MATTE DIFFUSE FINISH, WHITE PAINTED FLANGE	NOTES 1
F		LITHONIA OR EQUAL	ZL1N-L48-5000LM-FST-MVOLT-35K-80CRI-VH-L-SXR	SURFACE MOUNT	LED	1	120	72	INTEGRAL	48" LENSED LED STRIPLIGHT, CCT: 3500K, CRI: 80+, LUMENS: 4000, WHITE FINISH, INTEGRAL OCCUPANCY SENSOR	NOTE 1
J		VISALIGHTING OR APPROVED SUBSTITUTE	CB6456-2F27-SNA/ABA	WALL MOUNT	CF	1	120	25	PL-L 24WB35/4P	BOWE COMPACT FLUORESCENT DECORATIVE FIXTURE, CCT: 3500K, CRI: 80+, LUMENS: (2) 1600, SATIN NICKEL ALTERNATIVE, HAND PAINTED ALABASTER ALTERNATIVE	NOTE 2
NE		LUMINAIRE LED, OR APPROVED SUBSTITUTE	FFW1212-28W/HP-4000K-120-OP-SIL-WET-EMB125R	WALL MOUNT	LED	1	120	28	INTEGRAL	WALL MOUNT LED ARCHITECTURAL, VANDAL RESISTANT, CCT: 4000K, CRI: 80+, LUMENS: 1800, OPAL LENS, SILVER FINISH	NOTE 2

NOTES:  
1. LUMINAIRE TYPES DEFINED WITH A MANUFACTURER FOLLOWED BY "OR EQUAL" DO NOT REQUIRE PRIOR APPROVAL FOR SUBSTITUTED PRODUCTS TO BID, HOWEVER, THIS DOES NOT ALLEVATE THE SUBSTITUTED PRODUCT FROM MEETING OR EXCEEDING THE QUALITIES AND STANDARDS SET FORTH OF THE LISTED MANUFACTURERS PRODUCT.  
2. LUMINAIRE TYPES DEFINED WITH A MANUFACTURER FOLLOWED BY "OR APPROVED SUBSTITUTE" DOES REQUIRE PRIOR APPROVAL FOR SUBSTITUTED PRODUCTS TO BID, HOWEVER, THIS DOES NOT ALLEVATE THE SUBSTITUTED PRODUCT FROM MEETING OR EXCEEDING THE QUALITIES AND STANDARDS SET FORTH OF THE LISTED MANUFACTURERS PRODUCT.

PANEL B (RESTROOM BUILDING)										PHASE: 1		WIRE: 3		MAIN CAP: 60		AMPERES	
CCT NO		ITEM FED		MOUNTING		SURFACE		FEEDER SIZE		NEUTRAL		CIRCUIT BREAKER		WIRE		LOAD	
NO		WATTS		SIZE		AMPS		POLES		FRAME		FRAME		POLES		AMPS	
1	REC BATHROOM BUILDING	1,280	12	20	1					L1		1	20	12	427	LTG INTERIOR	2
3	WOMEN'S TOILET	540	12	20	1					L2		1	20	12	112	LTG EXTERIOR	4
5	MEN'S TOILET	720	12	20	1					L1		1	20	12	500	LTG CONTROL CABINET	6
7	AHU-4	4,320	8	40	2					L2		2	15	12	800	AHU-4	8
9		4,320	8							L1				12	600		10
11	ERV-4	1,656	12	20	2					L2		1	20	12	500	HANDICAP DOOR OPEN	12
13		1,656	12							L1		1	20	12	500	HANDICAP DOOR OPEN	14
15	HP-4	1,478	12	20	2					L2		1	20	12	500	HANDICAP DOOR OPEN	16
17		1,478	12							L1		1	20			SPARE	18
19	WH-4	4,500	8	40	2					L2						SPACE	20
21		4,500	8							L1						SPACE	22
23	SPARE									L2						SPACE	24

NOTES:  
1. APPROXIMATE CONNECTED LOAD  
L1- 15,959 WATTS  
L2- 14,204 WATTS

STARTER AND DISCONNECT SCHEDULE (BATHROOM BUILDING)										
MOTOR			STARTER				DISCONNECT		REMARKS/NOTES	
UNIT NO	HP	VOLT PHASE	TYPE	NEMA SIZE	ENCLOSURE TYPE	KEY FEATURES	SWITCH SIZE	FUSE SIZE		
AH1/4	36MCA	240/1	BYDIV23	-	-	INTEGRAL 40A	40A	PER NEC	INTEGRAL STARTER	
ERV4	(2) 3/4	240/1	BYDIV23	-	-	INTEGRAL 20A	20A	PER NEC	INTEGRAL STARTER	
HP-4	12.3MCA	240/1	BYDIV23	-	-	INTEGRAL 20A	20A	PER NEC	INTEGRAL STARTER	
WH-4	38FLA	240/1	-	-	-	-	40A	PER NEC	-	
NOTES:										
KEY:										
B= HAND-OFF-AUTO SELECTOR SWITCH			G= GREEN "PILOT" LIGHT			R= RED "ON" PILOT LIGHT				
FT= CONTROL W/VR 120V FUSE			ST= SINGLE POINT CONNECTION			M= MOTOR RATED SWITCH				
FVR= FULL VOLTAGE NON REVERSING			FVR= FULL VOLTAGE REVERSING			RVS= REDUCED VOLTAGE START				
VFD= VARIABLE FREQUENCY DRIVE			MMS= MANUAL MOTOR STARTER WITH OVERLOAD PROTECTION & LOCK-OFF GUARD							
PROVIDE ALL MOTORS OVER 5 HP WITH SOLID STATE OVERLOADS										
COORDINATE EXACT REQUIREMENTS WITH MECHANICAL SHOP DRAWINGS PRIOR TO ORDERING EQUIPMENT OR RUNNING FEEDERS										
PROVIDE ALL STARTERS WITH 2 N O & 2 N C AUXILIARY INTERLOCKING RELAYS										



WALL IN PVC CONDUIT

## LIGHTNING PROTECTION THROUGH ROOF DETAIL

6 THROU  
E-501 SCALE: N.T.S.

**NOTES:**

1. THE COVER SHALL BE GASKETS WITH A MINIMUM OF TWO STAINLESS STEEL BOLTS AND WASHERS.
2. THE COVER SHALL HAVE A LIFTING EYE.
3. THE SURFACE OF THE COVER SHALL HAVE A MINIMUM WEFT AND DRY COEFFICIENT OF FRICTION VALUE OF 0.5 AS DETERMINED BY ASTM F 609.
4. THE COVER OF THE JUNCTION BOX SHALL HAVE THE APPROPRIATE LOGO IN ONE INCH SIZE LETTER AND SHALL BE RECESSED. WHEN THE JUNCTION BOX CONTAINS CABLE OR WIRES FOR A TRAFFIC SIGNAL, THEN THE LOGO SHALL BE "SIGNAL". WHEN THE JUNCTION BOX CONTAINS LIGHTING CONDUCTORS THEN THE LOGO SHALL BE "LIGHTING".
5. THE ELECTRICAL JUNCTION BOXES SHALL COMPLY WITH THE AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)/SOCIETY OF CABLE TELECOMMUNICATIONS ENGINEERS (SCTE) 77 2007 SPECIFICATION FOR UNDERGROUND ENCLOSURE INTEGRITY. THE LOADING REQUIREMENT FOR ALL THE ELECTRICAL JUNCTION BOXES SHALL BE Tier 8 of ANSI/SCTE 77 2007.
6. THE ELECTRICAL JUNCTION BOXES SHALL BE UL LISTED.

2'-0" MIN  
[610mm]

1 1/2" TYP  
[38mm]

1" [25mm] 1" [25mm] 2" [51mm] 1" [25mm]

4'-0" MIN  
[102mm]

2" [51mm] 1" [25mm] 5/8" [16mm]

3/8" DIA. HOLE TYP. OF (6)

1/4" DIA. HOLE TYP. OF (8)

1/4" DIA. MOUNTING HOLES TYP. OF (8)

1/4" THICK CU BUSS

1/2" NUT

1/2" DIA. x 2L BOLT TYP. OF (2)

1/2" LOCK WASHER

1/2" STANDARD WASHER

1/2" FENDER WASHERS (EACH SIDE)

3" DEEP FIBERGLASS CHANNEL SAME LENGTH AS CU BUSS

2" [51mm] MIN

5" [127mm]

STEEL EXPANSION ANCHOR

SECTION

**SYMBOLS:**

W▶ - TELEPHONE OUTLET, WALL-MOUNTED

TV▶ - TELEVISION OUTLET

W▶ - COMPUTER OUTLET, NUMBER INDICATES QUANTITY OF JACKS  
NO NUMBER EQUALS 1 JACK.

W▶ - COMBINATION COMPUTER/TELEPHONE OUTLET, NUMBER  
INDICATES QUANTITY OF JACKS, NO NUMBER EQUALS 1 JACK

**NOTES:**

1. INSTALL CABLING, CONDUIT, TERMINATIONS, JACKS, DEVICES, AND PLATES. INSTALL BLANK PLATES ON ALL OUTLETS NOTED AS FUTURE.
2. UTILIZE MINIMUM 2 1/8" DEEP, 4 INCH SQUARE BOXES WITH A SINGLE GANG MUD RING. SEE SECTION 280553. BOX MUST MEET LATEST VERSION OF TIA-568 STANDARD AND MANUFACTURER RECOMMENDATIONS.
3. INSTALL A SEPARATE CABLE TO EACH DATA OUTLET, EACH TELEPHONE OUTLET, AND EACH CATV OUTLET FROM THE DATA PATCH PANELS, TELEPHONE PUNCH BLOCKS, AND CATV TERMINATION CABLE IN DATA CLOSET.
4. CABLE/WIRE IDENTIFICATION: WIRE MARKERS SHALL BE PERMANENT SELF-ADHESIVE MACHINE TYPED-ON TAPE WITH CLEAR ADHESIVE OVER-WRAP. ON EACH WIRE AT EACH TERMINATION, WIRE MARKERS SHALL RETAIN THEIR MARKINGS AFTER CLEANING. IDENTIFYING NUMBERS AND LETTERS ON THE WIRE MARKERS SHALL CORRESPOND TO THOSE ON THE DETAILS AND WIRING DIAGRAMS. IDENTIFICATION SHALL ALSO INCLUDE ROOM NUMBER AND JACK NUMBER. SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

**FLOOR BOA GENERAL NOTES:**

- A. DIMENSIONS SHOWN ARE EXAMPLES OF RFB2 SERIES FLOOR BOA. CONTRACTOR SHALL REFER TO MANUFACTURER FOR DIMENSIONS AND EXACT DIMENSIONS AND INSTALLATION REQUIREMENTS AND OPTIONS FOR COMPLETE, SECURE AND CODE COMPLIANT INSTALLATION. INSTALL PER MANUFACTURER RECOMMENDATIONS.
- B. CONTRACTOR SHALL FIELD VERIFY BOA DEVICE REQUIREMENT AND ASSOCIATED BOA NUMBER AND LOCATIONS.
- C. DEVICE (RECEPTABLES, DATA JACKS) AS RECOMMENDED BY SYSTEM PROVIDER.
- D. PLATE/TRIM, TILE AND/OR CARPET TYPE AND COLOR PER ARCHITECT.
- E. TYPE A FLOOR BOA CONTAINS (1) DUPLEX, (1) DATA, (1) PHONE.
- F. TYPE B FLOOR BOA CONTAINS (1) DUPLEX, (3) DATA, (1) PHONE.

**FLOOR BOX PLAN NOTES:**

- ① WIREMOLD RFB2 SERIES STEEL MULTI-SERVICE CONCEALED FLUSH FLOOR BOX RATED FOR WOOD AND CONCRETE FLOOR APPLICATION (CONTRACTOR RESPONSIBLE FOR FIELD VERIFYING FLOOR TYPE) WITH PRE AND POST CONCRETE POUR LEVELING LEGS. PROVIDE FIRE PROOF OPTION FOR AND IN FIRE RATED FLOOR APPLICATIONS. IN ON GRADE FLOOR APPLICATIONS, CONTRACTOR SHALL UPGRADE TO A CAST IRON FLOOR BOX MINIMUM RFB4 SERIES.
- ② TYPICAL. SERVICE PLATE WITH WIRING TUNNEL.
- ③ INSTALL PLATE AND TYPE A RECEPTACLE.
- ④ INSTALL PLATE FOR DATA/VOICE RJ45 IN COMPLIANCE WITH DIVISION 27 SPECIFICATIONS.
- ⑤ TYPICAL, MULTI-CONDUIT FOR POWER AND FOR DATA/VOICE MIN 3/4" TO 1" ALL SIDES AND BOTTOM.
- ⑥ HINGED STEEL FLUSH LATCH DOOR WITH TO GARD PROTECTION FROM WATER, DIRT AND DEBRIS. PROVIDE PLATE/TRIM FLANGE, CARPET AND/OR TILE COLOR AND TYPE PER ARCHITECT REQUIREMENTS.
- ⑦ CABLE EXIT HINGED DOOR WITH FOAM INSERT.

**TYPICAL ROOM WIRING AND CONDUIT DIAGRAM**  
SCALE: N.T.S.

SCALE: N.T.S.

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